BULLETIN DU MUSÉUM NATIONAL D'HISTOIRE NATURELLE
3e série, nº 496, novembre-décembre 1977, Zoologie 345

A new genus and species of parasitic Nematode, *Ananus asteroideus* (Nematoda, Marimermithidae), from the Asteroid *Diplopteraster perigrinator*

by I. A. Rubtsov *

Abstract. — A new genus and species of parasitic Nematode *Ananus asteroideus*, collected in the Antartic basin, is described from the Asteroid *Diplopteraster perigrinator*. The new genus is assigned to the family Marimermithidae Rubzov and Platonova.

Nematodes, supposedly Enoplids, parasitic in Asteroids and Ophiuroids were described during the past fifty years. Five species were attributed to three genera : *Thalassonema* Ward, 1933, *Marimermis* and *Trophomera* Rubzov and Platonova, 1974. The taxonomic position of *Thalassonema* in the phylum Nematoda was vague. Recently these three genera were united in one new family, Marimermithidae (Rubzov and Platonova, 1974). It is probable that Echinodermata are parasitized by additional genera and species of Nematodes, based on the data given in older literature (Shipley, 1901 ; Gemmill and Linstow, 1902) and the author's aequaintance with new faunistic collections.

A French expedition in the Antartic basin (MDO 3/ichthyo of M. S. Marion-Dufresne) under the leadership of J.-C. Hureau collected the Asteroid *Diplopteraster perigrinator*, which was parasitized by Helminths of unknown identity. Dr. A. Guille sent these Helminths to me for identification. Subsequent investigation revealed that these Nematodes belonged to a new genus and species described below.

Ananus Rubstov, gen. n.

Type species : *Ananus asteroideus* sp. n.

Definition. — Marimermithidae. Head set off by a small groove, three-lobed, with 6 lip papillae around simple mouth and with 4 head papillae behind lip ones. Setae or bristles absent. Amphids small, porous, arranged laterally, slightly behind and dorsal from lateral head papillae. There are 4 longitudinal chords. The simple mouth is in a conical cavity. The oesophagus is nearly cylindrical, a little swollen behind. Intestine with evident tubular lumen closed behind. Rectum and anus absent. The tail is round and short.

Diagnosis. — The genus *Ananus* differs from *Thalassonema* in lacking a rectum and anus. From *Marimermis* it differs in having two circles of papillae (lip and head) and three rows of large

* *Zoological Institute Academy of Sciences URSS, Leningrad.*

uniform glandular cells in lateral chords, in which the dorsal and ventral part has formed a bunch or cluster. *Ananus* is similar to *Trophomera* in lacking a rectum, but differs in having a rounded head with 4 well-developed bristles and 6 longitudinal chords.

Fig. I. — Asteroids *Diplopteraster perigrinator*, parasitized by Nematode *Ananus asteroideus*. (Phot. A. Guille.)

Ananus asteroideus gen. and sp. n.
(Fig. II)

Origin : MD03/ Ichtyo/ T.A.A.F., St. 17 Pr. 50 (47°24.9'S, 55° 04'E ; depth 585 m, N.W. Kerguelen Islands), 5 specimens.

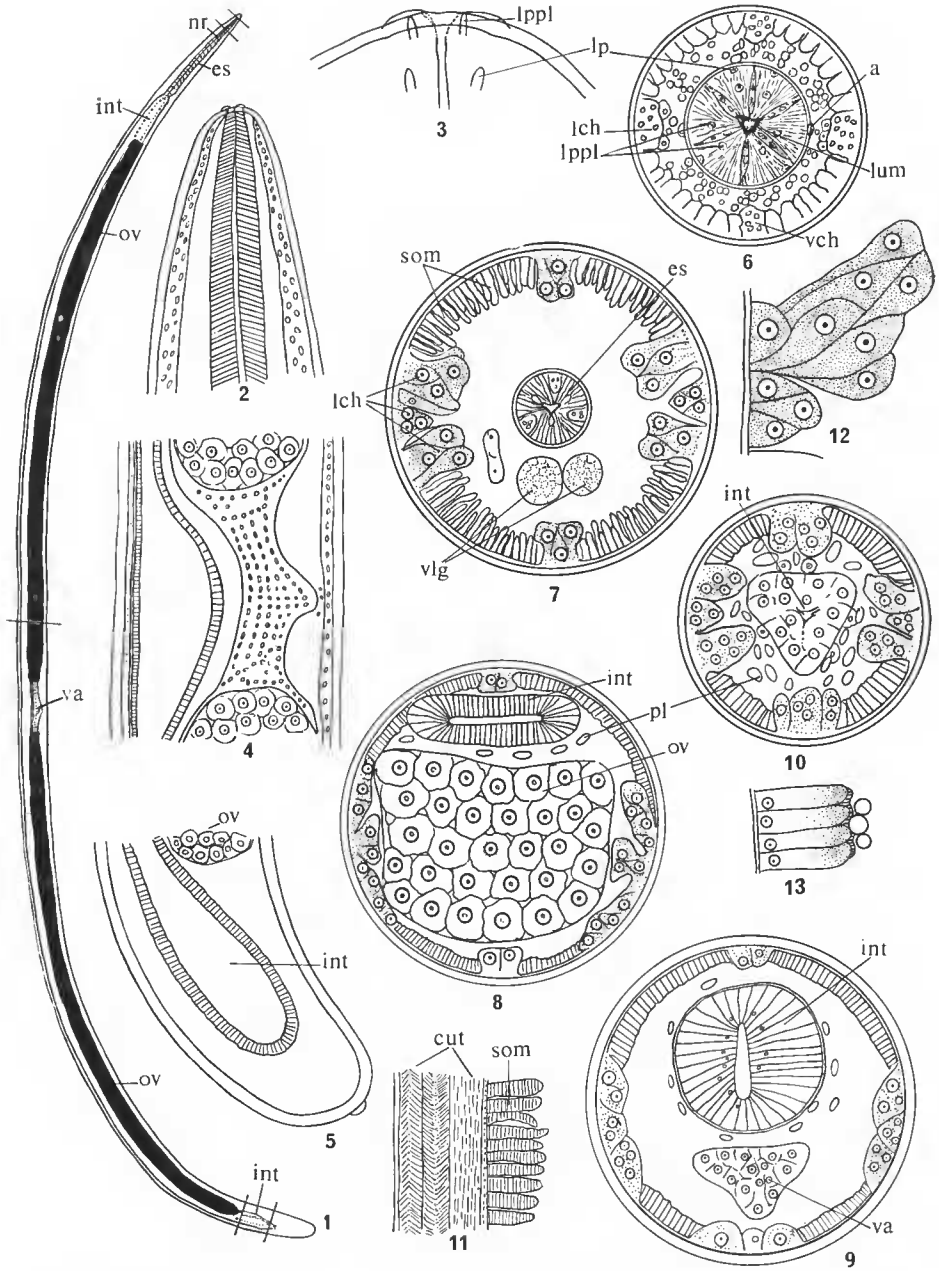

Fig. II. — Postparasitic and mature parasitic larvae *Ananus asteroideus*. ♀♀. 1-12.
1, total helminth ; 2, anterior part of the body with lateral chords and oesophagus ; 3, anterior part of head ; 4, middle part of body with commencement of vagina and uteri ; 5, tail ; 6-10, cross sections of the body ; 6, in anterior region of head ; 7, back of the nerve ring ; 8, in proximal part of the ovary ; 9, in region of vagina ; 10, in region of posterior end of the intestine ; 11, cuticle with somatic musculature ; 12, middle and dorsal part of lateral chord ; 13, cells of the intestine.
a, amphid ; cut, cuticle ; es, oesophagus ; int, intestine ; lch, lateral chord ; lum, lumen of oesophagus ; lp, head papillae ; lppl, lip papillae ; nr, nerve ring ; ov, ovary ; pl, protein plateltes ; som, somatic musculature ; va, vagina ; vch, ventral chord ; vlg, ventrolateral glands.

Description. — Females. Mature parasitic and postparasitic juveniles. L = 9-10 sm ; a = 61 ; b = 8,3 ; V = 52 %.

The colour of the body is ochraceous (fixed in alcohol). The body is cylindrical, the head capsule apically attenuate ; it gradually widens and achieves maximal diameter at a distance of 2-3 mm. Diameter of body upon the level : head papillae = 145-155 µm, nerve ring = 600-700 µm, vagina = 1,4-1,6 mm, hind end of intestine = 1,2-1,3 mm, so relations between these sizes will be : 1 : 4,2 : 10 : 8,3. The cuticles multilayered with evident crisscross striae, its thickness at widest part of body 7-8 µm, at apical end of head 5-6 µm. Dorsal and ventral chords are narrow with 2 rows of cells. Lateral chords are well developed and comprised of 3 longitudinal groups of large glandular cells, more or less deep moving into pseudocel (see fig. 11, 6, 7, 8). The median group is triangular in transversal section with 3-4 cells ; lateral groups more or less long cluster with 6-8 cells (fig. 11, 10, 12) ; anterior and caudal part of lateral chords are narrower, with 3-5 rows of cells.

The oesophagus is muscular, all along 1,2-1,5 mm, apically narrowed. The back is slightly widened and its diameter is about 1/5 of the body diameter. The lumen of the oesophagus is triangular, 6-7 µm. The cardium is short. There are two glandular ventrolateral glands in the first half of the body (fig. 11, 7 vlg). The intestine about 1/2 of the body diameter with columnar cells (fig. 11, 13), usually empty, sometimes with amorphic dropping. There are oval or amorphic protein platelets around the intestine, especially numerous in posterior part of body. The rectum and anus are absent ; the intestine ends is as in a rounded sac. The ovary does not reach the end of the body on 1-1,2 sm ; in transverse section there are 5-6-7 rows of ovocytes. There are rudiments of a vagina and uteri in the middle of body length, its length about 1-1/2-2 diameters of body. Caudal glands are absent. The tail has a small caudal hillock in the middle.

Host : Asteroid *Diplopteraster perigrinator* (Sladen). One specimen out of host body ; 4 specimens in coelomic cavity of host, one in every ray. Anterior and posterior part of one helminth was submerged in coelomic cavity of host, but middle part was out of it.

Holotypes : ♀ postparasitic juvenile and paratypes in Zoological Institute Academy of Sciences USSR, Leningrad. Slade N 12449, 1-10 and 12450, 1-8. Paratype : 2 specimens in Muséum national d'Histoire naturelle, Paris.

LITERATURE CITED

Gemmill, J.-F., et O. von Linstow, 1902. — *Ichthyonema grayi* Gemmill u. v. Linstow. *Arch. Naturges.*, **68** : 113-118.

Rubtsov, I. A., et T. A. Platonova, 1974. — Une nouvelle famille de Nematodes parasites marins. *Zool. Zh.*, **53** : 1445-1458.

Shipley, A. E., 1901. — On some parasites found in *Echinus esculentus* L. *Q. Jl. microsc. Sci.*, **44** : 281-290.

Ward, H. B., 1933. — On *Thalassonema ophioctinis*, a Nematode parasitic in the brittle star *Ophiocten amitinum*. *J. Parasit.*, **19** : 262-268.

Manuscrit déposé le 11 janvier 1977.